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INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

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## NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(PCT Rule 71.1)

<p>To:</p> <p>DE GREGORI, Antonella Ing.Barzano' &amp; Zanardo Milano S.p.A Via Borgonuovo, 10 I-20121 Milan ITALIE</p> <p style="text-align: right;">Milano</p> <p style="text-align: center;">- 7 NOV. 2005</p>
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Date of mailing (day/month/year)	03.11.2005
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Applicant's or agent's file reference Cal 89000		<b>IMPORTANT NOTIFICATION</b>
International application No. PCT/EP2004/014165	International filing date (day/month/year) 13.12.2004	
		Priority date (day/month/year) 22.01.2004
Applicant POLIMERI EUROPA S.P.A. et al.		

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary report on patentability and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.



#### 4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.


<p>Name and mailing address of the international preliminary examining authority:</p> <p> European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016</p>	<p>Authorized Officer</p> <p>Delmon, G</p> <p>Tel. +31 70 340-2525</p>	<p></p>
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## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference Cal 89000		<b>FOR FURTHER ACTION</b>		See Form PCT/PEA416
International application No. PCT/EP2004/014165		International filing date (day/month/year) 13.12.2004	Priority date (day/month/year) 22.01.2004	
International Patent Classification (IPC) or national classification and IPC C10G47/18, C10G47/20, C07C4/18				
Applicant POLIMERI EUROPA S.P.A. et al.				
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in Item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>				
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>				
Date of submission of the demand  05.08.2005		Date of completion of this report  03.11.2005		
Name and mailing address of the international preliminary examining authority:   European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016		Authorized Officer  Gilliquet, J-N  Telephone No. +31 70 340-4573		



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**Box No. I Basis of the report**

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1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

**Description, Pages**

1-22 as originally filed

**Claims, Numbers**

1-14 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/EP2004/014165

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	1-14
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-14
Industrial applicability (IA)	Yes: Claims	1-14
	No: Claims	

2. Citations and explanations (Rule 70.7):

**see separate sheet**

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

Reference is made to the following documents:

D1: EP-A-0 138 617 (STANDARD OIL CO) 24 April 1985 (1985-04-24)

D2: US-A-5 689 027 (OLSON DAVID H ET AL) 18 November 1997 (1997-11-18)

The arguments of the applicant developed in his letter dated 4.8.2005 have been considered by the examining division.

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 does not involve an inventive step in the sense of Article 33(3) PCT.

The document D1 (See example 1, §1 of p.4 and claim 12 of D1) is regarded as being the closest prior art to the subject-matter of claim 1, and discloses a process for the catalytic hydrodealkylation of hydrocarbons which comprises treating said hydrocarbon compositions, in continuous and in presence of hydrogen, with a catalyst consisting of a ZSM-5 zeolite, having a Si/Al molar ratio of 5 to 100, modified by Mo at a temperature from 95°C to 540°C, a pressure of 0,1 to 7 MPa and a H<sub>2</sub>/charge molar ratio of 0,5 to 20.

The subject-matter of claim 1 therefore differs from this known process in the selected Si/Al molar ratio, ranging from 5 to 35, the temperature from 400°C to 650°C, the pressure from 2 to 4 MPa and a H<sub>2</sub>/charge molar ratio from 3 to 6.

The problem to be solved by the present invention may therefore be regarded as an improved process of hydrodealkylation without concomitant side reactions (see last § of p.2 of present application).

The solution proposed in claim 1 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) because the applicant in his examples shows the effect of a low amount of molybdenum or other metals on the catalyst but not of its selected parameters (Si/Al ratio, temperature, pressure, H<sub>2</sub>/charge) compared to the

process of the closest prior art.

Dependent claims 2-14 do not contain any features which, in combination with the features of claim 1, meet the requirements of the PCT in respect of novelty and/or inventive step, see documents D1 and D2 and the corresponding passages cited in the search report.